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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/677,850	10/02/2003	Jeffrey Raynor	03EDI22652634	5132

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ALLEN, DYER, DOPPELT, MILBRATH & GILCHRIST P.A.  
1401 CITRUS CENTER 255 SOUTH ORANGE AVENUE  
P.O. BOX 3791  
ORLANDO, FL 32802-3791

EXAMINER

SINES, BRIAN J

ART UNIT	PAPER NUMBER
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1743

DATE MAILED: 04/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

C1

<b>Office Action Summary</b>	<b>Application No.</b> 10/677,850	<b>Applicant(s)</b> RAYNOR ET AL.	
	<b>Examiner</b> Brian J. Sines	<b>Art Unit</b> 1743	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 27 January 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 39-65 is/are pending in the application.
- 4a) Of the above claim(s) 66-80 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 39-65 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election with traverse of group I comprising claims 39 – 65 in the reply filed on 1/27/2006 is acknowledged. The traversal is on the ground(s) that no serious burden would be placed upon the examiner during examination. This is not found persuasive because classification of subject matter is merely one indication of the burdensome nature of the search requirements and a serious burden on the examiner may also be shown by appropriate explanation of the field of search (see MPEP § 803). As discussed in the restriction requirement, the different inventions involve different issues that would involve different considerations in determining patentability. Clearly, different searches and patentability determination issues are involved in the examination of each invention. Claims 66 – 80 have been withdrawn from consideration. The requirement is still deemed proper and is therefore made FINAL.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 39 – 65 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 39 – 65 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are:

Regarding claim 39, the claim is directed to a method of attaching a sensor and a housing to opposite sides of a mounting substrate. However, although the claim does recite a positioning step and indicates that each of the elements are positioned to be in aligned contact with each other, the claim does not positively recite an *attachment* step. Is an adhesive, bonding or fastening means used to complete the attachment?

Regarding claim 57, the claim is directed to a method of attaching a sensor to a mounting substrate. However, although the claim does recite a positioning step and indicates that each of the elements are positioned to be in contact with each other, the claim does not positively recite an *attachment* step. Is an adhesive, bonding or fastening means used to complete the attachment?

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

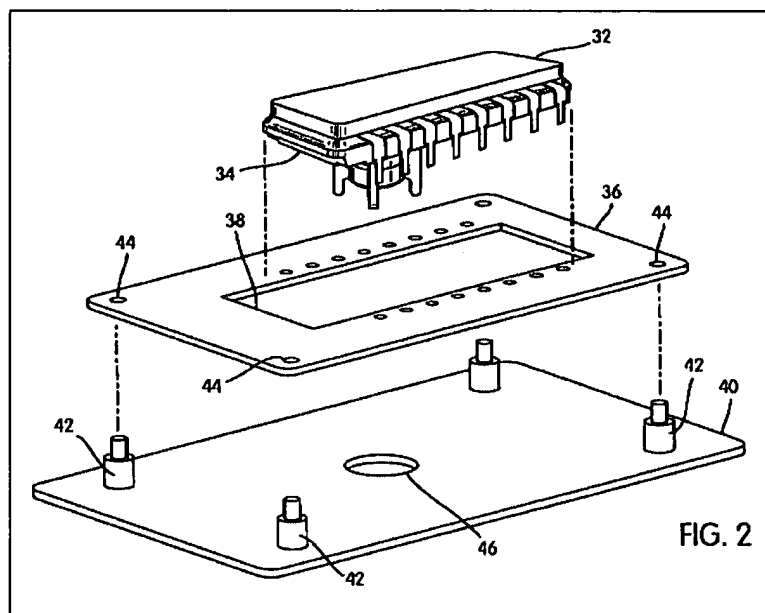
(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 39 – 41, 46, 48 – 53, 57, 58 and 63 – 65, are rejected under 35 U.S.C. 102(e) as being anticipated by Venkat et al. (U.S. Pat. No. 6,462,330 B1) (hereinafter “Venkat”).

Regarding claims 39 – 41, 46, 48 – 53, 57, 58 and 63 – 65, Venkat anticipates a method for attaching a sensor (optical sensor IC 32 with an integrated aperture plate 34) comprising a sensing face, a sensor or image sensing area (e.g., lens 56), signal output contacts and a housing (base plate 40) comprising an extended formation (alignment posts 42) to opposite sides of a mounting substrate (printed circuit board (PCB) 36 having additional openings (alignment

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apertures 44)) having an opening therethrough (38). Venkat teaches that the device components are positioned and aligned during device assembly (see col. 3, lines 1 – 62; figures 2 – 9).



### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459

(1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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1. Claims 42 – 44, 54, 59, 60 and 61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Venkat.

Regarding claims 42, 59, 60 and 61, the use of bump bonding in the assembly of integrated circuit and printed circuit board devices is well known in the art (see MPEP § 2144.03). Therefore, it would have been obvious to a person of ordinary skill in the art to employ the use of bump bonding in the assembly of the disclosed device.

Regarding claim 54, the use of threaded connections are well known in the art. Therefore, it would have been obvious to a person of ordinary skill in the art to employ the use of threaded connections during the assembly of the disclosed device as claimed.

2. Claims 45 and 62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Venkat in view of Glenn (U.S. Pat. No. 5,949,655 A) (hereinafter “Glenn”).

Regarding claim 45 and 62, Venkat does not specifically teach the incorporation of a CCD device. Glenn further teaches a sensor device comprising a charge coupled device (CCD) incorporated with an integrated circuit (see, e.g., col. 1, lines 39 – 55). A charge coupled device is considered functionally equivalent to the optical sensing device that is incorporated with the device disclosed by Venkat (see MPEP § 2144.06). The Courts have held that an express suggestion to substitute one equivalent component or process for another is not necessary to render such a substitution obvious. See *In re Fout*, 675 F.2d 297, 213 USPQ 532 (CCPA 1982). Thus, it would have been obvious to a person of ordinary skill in the art to incorporate a CCD device with the device disclosed by Venkat.

3. Claim 47 is rejected under 35 U.S.C. 103(a) as being unpatentable over Venkat in view of Bidiville et al. (U.S. Pat. No. 5,854,482 A) (hereinafter “Bidiville”).

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Regarding claim 47, Venkat does not specifically teach the use of a photodiode array.

Bidiville does teach a device using an optical sensing system incorporating the use of a photodiode array (see col. 9, lines 9 – 34). A photodiode array is considered functionally equivalent to the optical sensing device that is incorporated with the device disclosed by Venkat (see MPEP § 2144.06). The Courts have held that an express suggestion to substitute one equivalent component or process for another is not necessary to render such a substitution obvious. See *In re Fout*, 675 F.2d 297, 213 USPQ 532 (CCPA 1982). Thus, it would have been obvious to a person of ordinary skill in the art to incorporate a photodiode array system with the device as claimed.

4. Claims 55 and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Groger et al. (U.S. Pat. No. 6,300,638 B1) (hereinafter “Groger”) in view of Venkat.

Regarding claims 55 and 56, Groger teaches a biological sensing system incorporating the use of an optical sensor (e.g., photodiode/amplifier package 23) with a matter delivery system (e.g., inlet 36, outlet 38 and cavity 34) (see figures 1 and 4). The photodiode optical sensing system is considered functionally equivalent to the optical sensing device that is incorporated with the device disclosed by Venkat (see MPEP § 2144.06). The Courts have held that an express suggestion to substitute one equivalent component or process for another is not necessary to render such a substitution obvious. See *In re Fout*, 675 F.2d 297, 213 USPQ 532 (CCPA 1982). Thus, it would have been obvious to a person of ordinary skill in the art to incorporate the optical detection system with the disclosed device as claimed.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian J. Sines whose telephone number is (571) 272-1263. The examiner can normally be reached on Monday - Friday (11 AM - 8 PM EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill A. Warden can be reached on (571) 272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "Brian J. Sines". The signature is written in a cursive, flowing style with a large initial "B".